

CAA 112(r) INSPECTION REPORT

Quality Refrigerated Services
3301 G Street
Omaha, NE 68107
County: Douglas
Phone: 402-738-1118
Process: Refrigerated Warehousing and Storage

April 18-19, 2017
Case No: 17NE0418
RMP No: 1000 0023 5284
FRS No: 1100 1568 2395
High Risk: Yes
Program Level: 3

SUMMARY OF OBSERVATIONS

A review of Quality Refrigerated Services documents and facility revealed the following deficiencies:

1. **Quality Refrigerated Services failed to submit a single RMP on the date the regulated substance was first present above threshold quantity at their site per 40 CFR 68.150(b)(3).**
2. **Quality Refrigerated Services failed to conduct a hazard assessment under 40 CFR 68 Subpart B.**
3. **Quality Refrigerated Services failed to compile documentation on technology and equipment in the process including: process chemistry, maximum intended inventory, safe upper and lower limits for temperatures, pressures, flows or compositions, and consequences of deviations; and to document that equipment used complies with recognized and generally accepted good engineering practices. These findings are per 40 CFR 68.65(c)(d)(2).**
4. **Quality Refrigerated Services failed to perform an initial process hazard analysis and to update and revalidate that analysis at least every 5 years thereafter per 40 CFR 68.67.**
5. **Quality Refrigerated Services failed to develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process per 40 CFR 68.69(a).**
6. **Quality Refrigerated Services failed to document on-the-job training in initial training procedures, to document refresher training, and to verify employee understanding of the training received per 40 CFR 68.71(a)(1)(b)(c).**
7. **Quality Refrigerated Services failed to develop written procedures to maintain on-going integrity of process equipment and to document that inspection and**

testing procedures met recognized and generally accepted engineering practices per 40 CFR 68.73(b) & (d)(2).

8. Quality Refrigerated Services failed to establish and implement written procedures to manage changes per 40 CFR 68.75(a-e).
9. Quality Refrigerated Services failed to perform and document pre-startup safety reviews per 40 CFR 68.77(a)(b).
10. Quality Refrigerated Services failed to perform a compliance audit per 40 CFR 68.79.
11. Quality Refrigerated Services failed to develop a written plan for employee participation per 40 CFR 68.83(a)
12. Quality Refrigerated Services failed to evaluate contractor's safety performance and programs per 40 CFR 68.87(b)(1) & (5).
13. Quality Refrigerated Services failed to be included in the community emergency response plan developed under 42 U. S. C. 11003 per 40 CFR 68.90(b)(1).
14. Quality Refrigerated Services failed to develop a management system to oversee the implementation of the RMP per 40 CFR 68.15(a).

INTRODUCTION

I, Jim Ford, Grantee with the National Older Workers Career Center (NOWCC), representing the U.S. Environmental Protection Agency (EPA), Region VII, inspected Quality Refrigeration Services (QRS) on April 18-19, 2017. Mr. Brian Rasmussen, Compliance Inspector trainee seeking certification for the CAA 112(r) program, accompanied me and was lead on this inspection. Additionally, Mr. Ralph Martin, Senior Environmental Health Specialist with the Lincoln-Lancaster County Health Department in Lincoln, NE accompanied us to observe the inspection.

We arranged the inspection on April 13, 2017 with Mr. Henry Elker, Vice President at QRS. We sent an email on the same day with a Program 3 checklist attached. The email also outlined documents we would be reviewing. Mr. Elker was also asked to notify employees of the inspection to inform them that they are allowed to participate.

QRS was selected for inspection based on their entries on their most recent Tier II report, indicating they held regulated material above threshold quantity without filing an RMP.

We conducted the inspection to determine if the facility complies with Section 112(r) of the Clean Air Act (CAA), as amended in 1990. The inspection also included reporting provisions of the

Emergency Planning and Community Right to Know Act (EPCRA) and the release reporting provisions of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

EPA's regulations describing how these laws are to be implemented are found in the Code of Federal Regulations, Title 40, Part 68 (CAA), 355, 370, and 372 (EPCRA). The law and the implementing regulations, 40 CFR 68, Chemical Accident Prevention Program (CAPP) require that facilities must submit a complete Risk Management Plan (RMP) to the EPA for those regulated chemicals they process in amounts above the applicable threshold quantities after June 21, 1999 and to implement the program described in the RMP.

All attachments mentioned in this inspection report are in folders on the accompanying DVD. The folder number corresponds to the attachment number, as an example, Attachment #7 is in Folder 7. Not all the documentation obtained from QRS has been included in the attachments. The DVD itself is Attachment #17 and contains a copy of this inspection report, the original documents obtained, documents obtained post inspection, photographs taken during the inspection, current and past RMP submissions, emails, checklists, and completed forms.

HISTORY OF BUSINESS

QRS is a privately-owned, S-corporation company with 3 facilities; the company headquarters in Omaha and sister facilities in Spencer, IA and Worthington, MN. The principal business is refrigerated warehousing and storage, however the company also operates a specialty meat preparation business where cutting, slicing, and packaging is performed for customers. The Omaha facility was purchased in 1997 as an existing refrigerated plant. Over the years most of the original equipment has been replaced or updated. The workforce in Omaha is non-union, with 29 full-time employees in the QRS business and 48 full-time employees in the processing company which is Quality Processing Services, LLC. Both of these business entities work in the facility that is served by their single refrigeration system. The Omaha site runs multiple shifts, 6 days per week at most times. The plant and offices are 60,000+ square feet on approximately 2 acres, wholly-owned by QRS.

PERSONS INTERVIEWED AND INDIVIDUAL RESPONSIBILITIES

Michael L. Amundson	President
Henry Elker	Vice President of Operations
Amy English	Corporate Auditor & PSM Coordinator
Tim Caterino	Consultant with Industrial Consultants, LLC

INSPECTION

The inspection began on April 18, 2017 at 0800 hours and ended at 1450 hours on day one. We arrived the following morning at 0800 and concluded the inspection at 1000 hours.

Upon arrival at the facility, we met with Mr. Martin and then proceeded to the plant offices. We were met by Mr. Elker and escorted to the sign-in counter and then into the conference room area that was used during the inspection. We set-up our equipment in preparation for the inspection and introductions were made. I presented my credentials to Mr. Amundson and Mr. Rasmussen explained the purpose of our visit, briefly explaining the relationship between NOWCC and the EPA and we provided some information about our individual backgrounds.

Opening Conference:

We began the inspection by outlining the process and explaining that we would be requesting some documents to scan for review. We advised that those scanned documents would be listed on a signed receipt, along with any photographs taken during a tour of the facility, at the closing conference. We reviewed the individual forms and stated that the facility would receive a copy of the completed and signed forms during the closing conference. Mr. Amundson signed the Notice of Inspection (Att. #1). We explained that during the closing conference we would summarize our preliminary findings but that additional findings could result from a post inspection review of the documents after a more thorough review of the documents took place. We completed the multimedia screening checklist with their input. We explained in detail the options regarding Confidential Business Information (CBI) and how that would be handled

In our opening discussion, we explained that QRS had come to our attention due to entries they had made on their most recent Tier II report. They listed 2 separate entries for anhydrous ammonia, listing each at a daily amount of code 05, which is 5,000 to 9,999 pounds. These totaled more than the threshold quantity for this regulated substance which is 10,000 pounds. Based on this information, we determined QRS should be considered as a Program 3 filer. The representatives from QRS claimed to be uncertain of the total amount of anhydrous ammonia held at the facility and stated they were under the belief that the total quantity was less than the threshold quantity of 10,000 pounds. QRS acquired the facility in 1997 and in 1999, when the regulation for reporting over threshold quantity began, they determined that their site was at a quantity less than the reportable limit. They stated that several changes have been made to the systems as originally acquired, and no additional adjustment was presented regarding the reported quantity of anhydrous ammonia. No purchasing or charging records were found or available to verify quantity of the regulated substance. They acknowledged that based on the Tier II submission and stated quantity being above threshold quantity it would be necessary to make calculations and to substantiate the actual quantity on-hand. We continued the inspection using the Program 3 checklist and process. In the recently filed but not certified RMP, quantity of anhydrous ammonia is listed as 10,001 pounds. The QRS current Tier II report and aerial photographs of the facility and the surrounding area taken from Google Earth Pro are included at Attachment #5. QRS made their initial filing for RMP on April 17, 2017 and it is included at Attachment #6.

Based on the lack of an RMP filed previously, I find the following deficiency:

1. **Quality Refrigerated Services failed to submit a single RMP on the date the regulated substance was first present above threshold quantity at their site per 40 CFR 68.150(b)(3).**

Hazard Assessment:

At the start of the inspection QRS representatives said they had not previously done a hazard assessment. On the second day they provided one dated April 19, 2017. QRS used RMP*Comp based on urban topography for their distance-to-endpoint (DTE) calculations. This supporting documentation was scanned and can be found in Attachment #7.

The Worst Case Scenario (WCS) was based on a ten-minute release of 4,310 pounds of anhydrous ammonia from the control pressure receiver, which is the largest vessel, having a stated capacity of 9,381 pounds. This seems conflicting with the regulation guidance which is to use the quantity from the largest vessel and allows the quantity to be reduced if administrative controls are in effect. They had no established administrative controls for this item, but used an amount based on estimated volumes, contrary to regulation guidance. Using the lesser amount, they calculated DTE at 1.1 miles. The 2010 Census and ALOHA and MARPLOT were used to calculate an estimated affected population of 14,894 persons within the WCS DTE.

The Alternative Release Scenario was based on a 55.5 pounds-per-minute pipe leak from a 0.25-inch opening over a 60-minute time period resulting in a total release of 3,332 pounds of anhydrous ammonia. The calculated DTE is 0.11 miles and the affected population is 37 persons.

A review of OSHA 300 logs for the past 5 years showed no incidents related to inhalation injury or anhydrous ammonia exposure.

Based on the failure to have completed a hazard analysis prior to the EPA inspection, I find the following deficiency:

2. **Quality Refrigerated Services failed to conduct a hazard assessment under 40 CFR 68 Subpart B.**

Process Safety Information (PSI):

QRS lacked many of the required written documents compiling the technology of the process. They did not have information about maximum intended inventory. Also lacking were documents on process chemistry, safe upper and lower limits for temperatures, pressures, flows and compositions, and evaluation of consequences of deviations. They did provide a block flow diagram on day 2 of the inspection. Additionally, they did have P&IDs that provided some of the

required information. The P&ID documents were too large to scan, so they were reviewed at the facility. An SDS on anhydrous ammonia from Tanner Industries dated May 1, 2015 was provided and scanned. The list of the equipment (vessels, piping, etc.) containing ammonia could be found



Emergency stop controls outside of machine room, lacking warning signals and controls for fans.



Interior door to machine room from facility not set to open out in egress path from machine room.

in the P&IDs but they had no other listing of equipment in use for the process. Other documents not on-hand included electrical classification, relief system design and design basis, ventilation system design, and material and energy balances. Information taken regarding process safety information can be found at Attachment #8.

A number of items were observed that were contrary to recognized and generally accepted good engineering practices. Noted specific items include: missing and inadequate ventilation controls located outside of the engine room entry door; no safety shower/eyewash station located outside of engine room door; exhaust fan discharge not properly positioned and needing relocation; emergency ventilation not meeting the requirement for 30 air changes per hour; interior door from facility to engine room needs to be changed to swing out from the engine room per the path of egress; ammonia sensor alarm not producing any auditory or visual signals.



Outside door to machine room – no safety shower & eye wash station, missing ventilation controls.

Based on this review, I find the following deficiency:

3. **Quality Refrigerated Services failed to compile documentation on technology and equipment in the process including: process chemistry, maximum intended inventory, safe upper and lower limits for temperatures, pressures, flows or compositions, and consequences of deviations; and to document that equipment used complies with recognized and generally accepted good engineering practices. These findings are per 40 CFR 68.65(c)(d)(2).**



Intake & exhaust ventilation openings on wall outside machine room.

Process Hazard Analysis (PHA):

QRS did not conduct a PHA since beginning operations at this site in 1997. They stated that they believed they were under threshold quantity during that time, but no purchasing, charging, or other records were available to substantiate that claim. They have no current PHA and stated that they were moving immediately to complete this requirement. As a result of failing to perform the required PHA, I find the following deficiency:

- 4. Quality Refrigerated Services failed to perform an initial process hazard analysis and to update and revalidate that analysis at least every 5 years thereafter per 40 CFR 68.67.**

Operating Procedures (SOPs):

No established, written, and implemented operating procedures existed for standard process operations at QRS. The only written procedures available were safe work practices for lock-out/tag-out and confined space entry. Those procedures can be seen in Attachment #9. They stated that no activities requiring line break procedures were performed by QRS workers and all those activities were done by outside contractors. Based on this, I find the following deficiency:

- 5. Quality Refrigerated Services failed to develop and implement written operating procedures that provide clear instructions for safely conducting activities involved in each covered process per 40 CFR 68.69(a).**

Training:

QRS did have individual training forms documenting the subjects covered, date of training, and trainer for each new employee. Examples of these training documents are found in Attachment #10. It does not show that employees are given specific and detailed training concerning safety, health hazards, or emergency operations including shutdown during the initial training. No documentation is provided for on-the-job training given to employees involved with equipment or exposed to the process materials or to verify employee understanding of the training provided. Additionally, there was no documentation showing that refresher training is conducted. QRS has 2 full-time and 1 part-time employee who work with the ammonia refrigerated process and at least one of these has received specific and in-depth training including Garden City Ammonia Program Operator I and II training. Due to the lack of a training program at QRS, I find the following:

- 6. Quality Refrigerated Services failed to document on-the-job training in initial training procedures, to document refresher training, and to verify employee understanding of the training received per 40 CFR 68.71(a)(1)(b)(c).**

Mechanical Integrity:

QRS did not have written documents showing the facility had prepared and implemented

procedures for maintaining the process equipment. They did show that tests and inspections for facility equipment were done and examples of daily, weekly, and monthly inspection and rounds sheets are provided at Attachment #11. QRS had no documentation to show that inspection, testing, and maintenance procedures followed recognized and generally accepted good engineering practices. A listing and replacement schedule for relief valves was presented and it is in the Attachment. Non-destructive testing of process equipment was conducted for the purpose of establishing baseline measurements in 2014. That inspection resulted in a recommendation for re-inspection in 2016, but it is unclear if that occurred and no records of a re-inspection were presented. This information is also in the Attachment. No links were given to show that frequency of inspections and tests on process equipment were consistent with manufacturer's recommendations or other recognized and generally accepted good engineering practices. Because of this, I find the following deficiency:

7. **Quality Refrigerated Services failed to develop written procedures to maintain on-going integrity of process equipment and to document that inspection and testing procedures met recognized and generally accepted engineering practices per 40 CFR 68.73(b) & (d)(2).**

Management of Change (MOC) and Pre-Startup Review (PSSR):

QRS has not developed, written, and implemented an MOC procedure for this facility. The most recent instance of a major change in the process equipment within QRS was the removal of 3 smaller condensers and replacement with a single, larger unit in 2016. The methodology for MOC was not used for this change. QRS did provide some documentation about this project, including the system start-up by the outside contractor. That information is in Attachment #12. Based on QRS not conducting an MOC or PSSR procedure I find the following deficiencies:



Condenser unit installed in 2016 on facility roof.

8. **Quality Refrigerated Services failed to establish and implement written procedures to manage changes per 40 CFR 68.75(a-e).**
9. **Quality Refrigerated Services failed to perform and document pre-startup safety reviews per 40 CFR 68.77(a)(b).**

Compliance Audit (CA):

QRS had not previously completed or submitted an RMP for this facility since beginning
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operations at this site. Because of this, they have not done any compliance audits nor certified that compliance is evaluated at least every 3 years. I find the following deficiency:

10. Quality Refrigerated Services failed to perform a compliance audit per 40 CFR 68.79.

Incident Investigation:

QRS has had no accidents or reportable incidents within the last 5 years. They lack any policy documents or procedures for conducting incident investigation, and the value of having a procedure for this was discussed.

Employee Participation:

QRS has no written policy for employee participation. QRS does conduct regular safety meetings, employee information meetings, and facility group activities where significant information is given to employees and feedback is collected, but there is not an existing process for documenting and retaining this information at this time. No documented process for providing information and getting input for completing critical items such as PHA, CA, or suggestions regarding safety and operating procedures was present. Based on this, I find:

11. Quality Refrigerated Services failed to develop a written plan for employee participation per 40 CFR 68.83(a).

Hot Work Permits:

QRS does not conduct any hot work with their employees. Any hot work required is performed by outside contractors. QRS representatives said permits for hot work are not used by QRS but are the responsibility of the contractor. We acknowledged they did not have a hot work program and did not have any hot work at the site, but reminded them that under the RMP regulation, they were required to have a program, follow the requirements for hot work, and utilize permits for any hot work performed at their site, whether by contractors or by QRS employees.

Contractors:

QRS had no written policy or programs for managing contractors performing work within their facility. They do utilize outside contractors for all the maintenance requirements for the refrigeration process equipment and they mainly use a single supplier, Industrial Refrigeration Services, Inc. While they are very comfortable in the long-term relationship with that particular provider, they have not taken the actions required for the RMP to formally evaluate the contractor's safety performance and programs. They said they did not do the reviews for their contractors to

insure that the contractor has properly trained its workers, and that all contractors are aware of potential hazards in the facility. They said they currently control contractor movement and activities within the facility by sign-in procedures, pre-work reviews with managers, and post-completion reviews with those managers after the services are performed. Based on this information, I find the following deficiency:

12. Quality Refrigerated Services failed to evaluate contractor's safety performance and programs per 40 CFR 68.87(b)(1) & (5).

Emergency Response:

QRS is a non-responding facility, relying on the local fire department and first responders. Their emergency action plan is in Attachment #13. QRS said they had coordinated with the local LEPC but this was not verified by a phone conversation on April 25 with Paul Johnson, Director at Omaha-Douglas County Emergency Management Agency (phone 402-444-5040). He found no record of contact and participation by QRS. We also contacted Captain Cobie Werner of the Omaha Fire Department (phone 402-444-6108) who could not confirm coordination between QRS and emergency responders has occurred. On April 26, Kelli the assistant to John Houser (phone 402-559-7315), LEPC Chairman, advised that no record was found on QRS, no application on file, and they are not listed with the local LEPC. Based on this information, I find the following deficiency:

13. Quality Refrigerated Services failed to be included in the community emergency response plan developed under 42 U. S. C. 11003 per 40 CFR 68.90(b)(1).

Executive Summary:

We reviewed the Executive Summary of the facility's RMP filed on April 17, 2017 and it addressed all six of the required elements. We observed, however, that the Executive Summary as written contains several incorrect claims, including: existing written operating procedures, equipment maintenance program, process audits, and incident investigation procedures.

Management:

We reviewed the information provided regarding QRS's management system and this can be found in Attachment #14. The program elements and responsibilities for each are listed, but no person or position is assigned for responsibility for the program elements. Additionally, the organization chart does not clearly indicate responsibilities under the RMP. Because of this, I find the following deficiency:

14. Quality Refrigerated Services failed to develop a management system to oversee the implementation of the RMP per 40 CFR 68.15(a).

Closing Conference:

We reviewed our observations and findings with those in attendance. Mr. Amundson signed the Receipt for Samples and Documents (Att. #2), and Notice of Preliminary Findings (Att. #3). We reviewed the options for declaring confidential business information (CBI), and Mr. Amundson signed the Confidentiality Notice (Att. #4) indicating that there was no CBI. We provided him with copies of the signed forms and we scanned them for our records.

Following close-out discussion and explanations of how the inspection report would be processed and move forward, we packed up the material and equipment and departed the facility at 1000 hours on April 19, 2017.

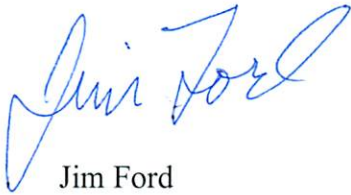
Post Inspection Information:

Following our inspection, we received several items from QRS intended to keep us informed of actions underway at the facility as a result of our inspection. Documents include:

1. QRS Action Items from Preliminary Findings: an action plan to address items cited during the RMP inspection.
2. QRS HAZMAT Meeting, 4-27-2017: summary of a coordination meeting held with the Omaha Fire Department and LEPC to register and become included in the community emergency response plans.
3. QRS Memo 4-27-2017: documenting plans for evaluation and modification of the machine room ventilation system.
4. Progress on PSM: an updated action plan regarding efforts to meet PSM requirements.
5. P.O. for Mechanical Integrity: Purchase Order for preparing documentation on all QRS process equipment, including compressors, condensers, heat exchangers, evaporators, pressure vessels, pumps, piping, relief valves, ventilation system and general safety items related to the machine room.
6. P.O. for Outside Eyewash Station: Purchase Order to install an eyewash/safety shower station outside the machine room main door.
7. P.O. for PSM Program: Purchase Order to develop all elements required for the PSM program.
8. P.O. for Emergency Action Plan: Purchase Order to create an action plan for emergencies.
9. P.O. for Evaluation of Ventilation: Purchase Order for evaluation and determining requirements for ventilation in the machine room.
10. P.O. for PHA: Purchase Order for development and creation of a Process Hazard Analysis for use at the QRS Omaha facility.
11. P.O. for Development of PMSOP's: Purchase Order for developing and creating preventive maintenance items, inspection requirements, and operating procedures.
12. P.O. for Horn and Strobes: Purchase Order for upgrading and expanding the security systems within the QRS facility.
13. Management System: An updated policy statement for addressing the management

- requirements of 40 CFR 68.15.
14. Material and Energy Balance: Schematic as required with Process Safety Information.
 15. Ammonia Equipment Inventory: Listing of all process equipment.
 16. Equipment Room Vessel Listing: An inventory listing with information regarding vessels and pressure equipment.
 17. Ventilation Calculations: Information and calculations for determining flow rates in the machine room.

All of these documents and the e-mail messages received from QRS can be found in Attachment #16 and in the folder on the attached DVD.



Jim Ford
Compliance Inspector
May 11, 2017

Brian Rasmussen
Compliance Inspector
May 11, 2017

Attachments

- 01 - Notice of Inspection
- 02 - Receipt of Samples & Documents
- 03 - Notice of Preliminary Findings
- 04 - Confidentiality Notice
- 05 - Tier II & Aerial Photos
- 06 - RMP
- 07 - Hazard Assessment
- 08 - Process Safety Information
- 09 - Operating Procedures
- 10 - Training
- 11 - Mechanical Integrity -
- 12 - MOC/PSSR
- 13 - Emergency Response
- 14 - Management
- 15 - Facility Photos
- 16 - E-mails & Post-Inspection Documents
- 17 - DVD